



Lab and Pilot Testing

Course Introduction:

This course aims to provide participants with a comprehensive understanding of the principles, methodologies, and best practices associated with lab and pilot testing.

Throughout the course, participants will explore the different types of lab and pilot tests, including batch and continuous processes, and the importance of experimental design in obtaining reliable data. They will learn about the analytical techniques used to assess process performance and the key factors influencing the transition from lab-scale to pilot-scale operations. By examining case studies, industry standards, and regulatory requirements, attendees will gain valuable insights into how to effectively conduct lab and pilot testing to inform decision-making and optimize process development.

Course Objectives:

By the end of the program, participants will be able to:

- Understand the fundamental concepts and significance of lab and pilot testing.
- Learn about different types of lab and pilot tests and their applications.
- Explore experimental design principles for effective testing.
- Analyze analytical techniques used in evaluating process performance.
- Familiarize participants with industry standards and best practices in lab and pilot testing.

International Centre For Training & Development

Who Should Attend?

This course is intended for Process engineers and scientists involved in product development, Quality assurance and control personnel, Research and development professionals and Regulatory affairs specialists

Course Outline:

Day 1: Introduction to Lab and Pilot Testing

- Overview of lab and pilot testing and their roles in process development
- Key objectives and benefits of conducting tests at different scales
- Regulatory requirements and guidelines for lab and pilot testing

Day 2: Types of Lab and Pilot Tests

- Overview of batch vs. continuous testing methods
- Designing experiments for different test types
- Applications of lab and pilot testing in various industries

Day 3: Experimental Design Principles

- Fundamentals of experimental design: variables, controls, and replicates
- Statistical methods for analyzing test data
- Importance of reproducibility and reliability in testing

Day 4: Analytical Techniques for Process Evaluation

- Overview of common analytical techniques: chromatography, spectroscopy, and microscopy
- Understanding data interpretation and reporting results
- Case studies demonstrating analytical methods in lab and pilot testing

Day 5: Industry Standards and Best Practices

- Review of relevant industry standards for lab and pilot testing
- Best practices for managing lab and pilot testing projects
- Future trends and challenges in laboratory and pilot-scale testing

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work

Course Fees:

To be advice as per course location. This rate includes participant's manual, Hands-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session